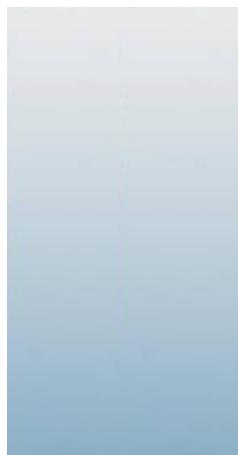




07/03/12



Gulf Coast

LABORATORIES

Technical Report for

URS Corporation

UTC-Metzler/ 3200 Main St. Keokuk, IA

16530531

Accutest Job Number: TC10984

Sampling Date: 06/19/12

Report to:

URS Corporation
8300 College Blvd. Suite 200
Overland Park, KS 66210
David_Dods@URSCorp.com

ATTN: Mr. David Dods

Total number of pages in report: 51



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Georgia Jones 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366)
LA (85695/04004) OK (211-035)

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Test results relate only to samples analyzed.

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Sample Summary

URS CorporationJob No: **TC10984****UTC-Metzler/ 3200 Main St. Keokuk, IA**
Project No: 16530531

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID
TC10984-1	06/19/12	15:15	06/20/12	AQ Water	MW-19
TC10984-1D	06/19/12	15:15	06/20/12	AQ Water Dup/MSD	MW-19 MSD
TC10984-1F	06/19/12	15:15	06/20/12	AQ Water Filtered	MW-19
TC10984-1FD	06/19/12	15:15	06/20/12	AQ Water Filtered	MW-19 MSD
TC10984-1FS	06/19/12	15:15	06/20/12	AQ Water Filtered	MW-19 MS
TC10984-1S	06/19/12	15:15	06/20/12	AQ Water Matrix Spike	MW-19 MS
TC10984-2	06/19/12	15:00	06/20/12	AQ Water	MW-23A
TC10984-2F	06/19/12	15:00	06/20/12	AQ Water Filtered	MW-23A
TC10984-3	06/19/12	16:35	06/20/12	AQ Water	MW-23B
TC10984-3F	06/19/12	16:35	06/20/12	AQ Water Filtered	MW-23B
TC10984-4	06/19/12	00:00	06/20/12	AQ Trip Blank Water	TRIP BLANK-002



SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: URS Corporation

Job No TC10984

Site: UTC-Metzler/ 3200 Main St. Keokuk, IA

Report Date 7/3/2012 7:06:21 AM

3 Samples 1 Trip Blank were collected on 06/19/2012 and were received intact at Accutest on 06/20/2012 and properly preserved in 1 cooler at 5.5 Deg C These Samples received an Accutest job number of TC10984. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ	Batch ID: VK387
------------------	------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) TC10984-1MS, TC10984-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ	Batch ID: GSS151
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10973-4DUP, TC10984-1MS were used as the QC samples indicated.

Metals By Method SW846 6010B

Matrix AQ	Batch ID: MP17980
------------------	--------------------------

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10984-1FMS, TC10984-1FMSD, TC10984-1FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Iron are outside control limits for sample MP17980-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method EPA 300/SW846 9056

Matrix AQ

Batch ID: GP19676

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10984-1DUP, TC10984-1MS, TC10984-1MS were used as the QC samples for Nitrogen, Nitrate, Nitrogen, Nitrite, Nitrogen, Nitrite.

Matrix AQ

Batch ID: GP19744

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10984-1DUP, TC10984-1MS, TC10984-1MS were used as the QC samples for Chloride, Sulfate, Sulfate.

Wet Chemistry By Method EPA 353.2

Matrix AQ

Batch ID: GP19758

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10984-1DUP, TC10984-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Wet Chemistry By Method SM 2320B

Matrix AQ

Batch ID: GN43189

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10984-1DUP, TC10984-1MS were used as the QC samples for Alkalinity, Total as CaCO₃.

Wet Chemistry By Method SM 4500S+F

Matrix AQ

Batch ID: GN43029

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10984-1DUP were used as the QC samples for Sulfide.

Wet Chemistry By Method SM5310B/9060A

Matrix AQ

Batch ID: GP19688

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC10984-1DUP, TC10984-1MS were used as the QC samples for Total Organic Carbon.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used



Sample Results

Report of Analysis

Report of Analysis

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Client Sample ID:	MW-19	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-1	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K08471.D	1	06/27/12	EM	n/a	n/a	VK387
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00025	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	0.00025	mg/l	
75-25-2	Bromoform	ND	0.0010	0.00035	mg/l	
71-36-3	n-Butyl Alcohol	ND	0.050	0.033	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00022	mg/l	
75-00-3	Chloroethane	ND	0.0010	0.00044	mg/l	
67-66-3	Chloroform	ND	0.0010	0.00020	mg/l	
75-15-0	Carbon disulfide	ND	0.0010	0.00036	mg/l	
56-23-5	Carbon tetrachloride	0.00036	0.0010	0.00036	mg/l	J
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00029	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00040	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00020	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	0.00025	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	0.00029	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	0.00024	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	0.00020	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	0.00030	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0020	0.00054	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	0.00021	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00025	mg/l	
110-54-3	Hexane	ND	0.0020	0.00066	mg/l	
591-78-6	2-Hexanone	ND	0.010	0.0024	mg/l	
78-83-1	Isobutyl alcohol	ND	0.050	0.023	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.010	0.0019	mg/l	
74-83-9	Methyl bromide	ND	0.0010	0.00031	mg/l	
74-87-3	Methyl chloride	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0010	mg/l	
78-93-3	Methyl ethyl ketone	ND	0.010	0.0018	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00028	mg/l	
100-42-5	Styrene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00031	mg/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-19	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-1	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0010	0.00038	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00036	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00033	mg/l	
108-88-3	Toluene	ND	0.0010	0.00026	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	0.00036	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00040	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	97%		75-121%
2037-26-5	Toluene-D8	100%		87-119%
460-00-4	4-Bromofluorobenzene	114%		80-133%

ND = Not detected MDL - Method Detection Limit

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B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-19	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-1	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	RSKSOP-147/175		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS003057.D	1	06/22/12	FI	n/a	n/a	GSS151
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.00478	0.00050	0.00030	mg/l	
74-85-1	Ethene	ND	0.0010	0.00050	mg/l	
74-84-0	Ethane	ND	0.0010	0.00050	mg/l	

ND = Not detected MDL - Method Detection Limit
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 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-19	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-1	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	390	5.0	mg/l	1	06/27/12 10:00	RA	SM 2320B
Chloride	278	25	mg/l	50	06/25/12 10:53	ES	EPA 300/SW846 9056
Nitrogen, Nitrate	0.65	0.50	mg/l	1	06/20/12 17:20	ES	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite	0.43	0.10	mg/l	1	06/26/12 11:57	CV	EPA 353.2
Nitrogen, Nitrite	< 0.50	0.50	mg/l	1	06/20/12 17:20	ES	EPA 300/SW846 9056
Sulfate	254	25	mg/l	50	06/25/12 10:53	ES	EPA 300/SW846 9056
Sulfide	< 0.20	0.20	mg/l	1	06/22/12 11:00	SS	SM 4500S+F
Total Organic Carbon	1.6	1.0	mg/l	1	06/21/12 11:49	KD	SM5310B/9060A

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-19	Date Sampled: 06/19/12
Lab Sample ID: TC10984-1F	Date Received: 06/20/12
Matrix: AQ - Water Filtered	Percent Solids: n/a
Project: UTC-Metzler/ 3200 Main St. Keokuk, IA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	< 100	100	ug/l	1	06/21/12	06/22/12 EG	SW846 6010B ¹	SW846 3010A ²
Manganese	20.5	15	ug/l	1	06/21/12	06/22/12 EG	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA7005

(2) Prep QC Batch: MP17980

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	MW-23A	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-2	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K08482.D	1	06/27/12	EM	n/a	n/a	VK387
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00025	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	0.00025	mg/l	
75-25-2	Bromoform	ND	0.0010	0.00035	mg/l	
71-36-3	n-Butyl Alcohol	ND	0.050	0.033	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00022	mg/l	
75-00-3	Chloroethane	ND	0.0010	0.00044	mg/l	
67-66-3	Chloroform	ND	0.0010	0.00020	mg/l	
75-15-0	Carbon disulfide	ND	0.0010	0.00036	mg/l	
56-23-5	Carbon tetrachloride	ND	0.0010	0.00036	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00029	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00040	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00020	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	0.00025	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	0.00029	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	0.00024	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	0.00020	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	0.00030	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0020	0.00054	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	0.00021	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00025	mg/l	
110-54-3	Hexane	ND	0.0020	0.00066	mg/l	
591-78-6	2-Hexanone	ND	0.010	0.0024	mg/l	
78-83-1	Isobutyl alcohol	ND	0.050	0.023	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.010	0.0019	mg/l	
74-83-9	Methyl bromide	ND	0.0010	0.00031	mg/l	
74-87-3	Methyl chloride	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0010	mg/l	
78-93-3	Methyl ethyl ketone	ND	0.010	0.0018	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00028	mg/l	
100-42-5	Styrene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00031	mg/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

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3

Client Sample ID:	MW-23A	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-2	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0010	0.00038	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00036	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00033	mg/l	
108-88-3	Toluene	ND	0.0010	0.00026	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	0.00036	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00040	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	100%		87-119%
460-00-4	4-Bromofluorobenzene	113%		80-133%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID:	MW-23A	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-2	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	RSKSOP-147/175		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS003067.D	1	06/22/12	FI	n/a	n/a	GSS151
Run #2	SS003069.D	50	06/22/12	FI	n/a	n/a	GSS151

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.973 ^a	0.025	0.015	mg/l	
74-85-1	Ethene	ND	0.0010	0.00050	mg/l	
74-84-0	Ethane	ND	0.0010	0.00050	mg/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-23A	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-2	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	215	5.0	mg/l	1	06/27/12 10:00	RA	SM 2320B
Chloride	1950	100	mg/l	200	06/25/12 12:01	ES	EPA 300/SW846 9056
Nitrogen, Nitrate	< 0.50	0.50	mg/l	1	06/20/12 18:11	ES	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite	0.20	0.10	mg/l	1	06/26/12 11:59	CV	EPA 353.2
Nitrogen, Nitrite	< 0.50	0.50	mg/l	1	06/20/12 18:11	ES	EPA 300/SW846 9056
Sulfate	1.6	0.50	mg/l	1	06/25/12 11:44	ES	EPA 300/SW846 9056
Sulfide	< 0.20	0.20	mg/l	1	06/22/12 11:00	SS	SM 4500S+F
Total Organic Carbon	22.3	1.0	mg/l	1	06/21/12 13:54	KD	SM5310B/9060A

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	MW-23A	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-2F	Date Received:	06/20/12
Matrix:	AQ - Water Filtered	Percent Solids:	n/a
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	56900	100	ug/l	1	06/21/12	06/22/12 EG	SW846 6010B ¹	SW846 3010A ²
Manganese	4720	15	ug/l	1	06/21/12	06/22/12 EG	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA7005

(2) Prep QC Batch: MP17980

RL = Reporting Limit

Report of Analysis

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3

Client Sample ID:	MW-23B	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-3	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K08483.D	1	06/27/12	EM	n/a	n/a	VK387
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00025	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	0.00025	mg/l	
75-25-2	Bromoform	ND	0.0010	0.00035	mg/l	
71-36-3	n-Butyl Alcohol	ND	0.050	0.033	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00022	mg/l	
75-00-3	Chloroethane	ND	0.0010	0.00044	mg/l	
67-66-3	Chloroform	ND	0.0010	0.00020	mg/l	
75-15-0	Carbon disulfide	ND	0.0010	0.00036	mg/l	
56-23-5	Carbon tetrachloride	ND	0.0010	0.00036	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00029	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00040	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00020	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	0.00025	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	0.00029	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	0.00024	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	0.00020	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	0.00030	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0020	0.00054	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	0.00021	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00025	mg/l	
110-54-3	Hexane	ND	0.0020	0.00066	mg/l	
591-78-6	2-Hexanone	ND	0.010	0.0024	mg/l	
78-83-1	Isobutyl alcohol	ND	0.050	0.023	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.010	0.0019	mg/l	
74-83-9	Methyl bromide	ND	0.0010	0.00031	mg/l	
74-87-3	Methyl chloride	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0010	mg/l	
78-93-3	Methyl ethyl ketone	ND	0.010	0.0018	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00028	mg/l	
100-42-5	Styrene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00031	mg/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

3

Client Sample ID:	MW-23B	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-3	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0010	0.00038	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00036	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00033	mg/l	
108-88-3	Toluene	ND	0.0010	0.00026	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	0.00036	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00040	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	97%		75-121%
2037-26-5	Toluene-D8	99%		87-119%
460-00-4	4-Bromofluorobenzene	114%		80-133%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.5
3

Client Sample ID:	MW-23B	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-3	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	RSKSOP-147/175		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS003070.D	1	06/22/12	FI	n/a	n/a	GSS151
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.00050	0.00030	mg/l	
74-85-1	Ethene	ND	0.0010	0.00050	mg/l	
74-84-0	Ethane	ND	0.0010	0.00050	mg/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID:	MW-23B	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-3	Date Received:	06/20/12
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	390	5.0	mg/l	1	06/27/12 10:00	RA	SM 2320B
Chloride	67.7	5.0	mg/l	10	06/25/12 12:18	ES	EPA 300/SW846 9056
Nitrogen, Nitrate	5.3	0.50	mg/l	1	06/20/12 19:02	ES	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite	6.3	0.20	mg/l	2	06/26/12 12:54	CV	EPA 353.2
Nitrogen, Nitrite	< 0.50	0.50	mg/l	1	06/20/12 19:02	ES	EPA 300/SW846 9056
Sulfate	141	5.0	mg/l	10	06/25/12 12:18	ES	EPA 300/SW846 9056
Sulfide	< 0.20	0.20	mg/l	1	06/22/12 11:00	SS	SM 4500S+F
Total Organic Carbon	1.4	1.0	mg/l	1	06/21/12 14:08	KD	SM5310B/9060A

RL = Reporting Limit

Report of Analysis

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3.6
3

Client Sample ID:	MW-23B	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-3F	Date Received:	06/20/12
Matrix:	AQ - Water Filtered	Percent Solids:	n/a
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	< 100	100	ug/l	1	06/21/12	06/22/12 EG	SW846 6010B ¹	SW846 3010A ²
Manganese	190	15	ug/l	1	06/21/12	06/22/12 EG	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA7005

(2) Prep QC Batch: MP17980

RL = Reporting Limit

Report of Analysis

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3

Client Sample ID: TRIP BLANK-002
Lab Sample ID: TC10984-4
Matrix: AQ - Trip Blank Water
Method: SW846 8260B
Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Date Sampled: 06/19/12
Date Received: 06/20/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K08481.D	1	06/27/12	EM	n/a	n/a	VK387
Run #2							

Purge Volume
Run #1 5.0 ml
Run #2

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00025	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	0.00025	mg/l	
75-25-2	Bromoform	ND	0.0010	0.00035	mg/l	
71-36-3	n-Butyl Alcohol	ND	0.050	0.033	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00022	mg/l	
75-00-3	Chloroethane	ND	0.0010	0.00044	mg/l	
67-66-3	Chloroform	ND	0.0010	0.00020	mg/l	
75-15-0	Carbon disulfide	ND	0.0010	0.00036	mg/l	
56-23-5	Carbon tetrachloride	ND	0.0010	0.00036	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00029	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00040	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00020	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	0.00025	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	0.00029	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	0.00024	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	0.00020	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	0.00030	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0020	0.00054	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	0.00021	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00025	mg/l	
110-54-3	Hexane	ND	0.0020	0.00066	mg/l	
591-78-6	2-Hexanone	ND	0.010	0.0024	mg/l	
78-83-1	Isobutyl alcohol	ND	0.050	0.023	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.010	0.0019	mg/l	
74-83-9	Methyl bromide	ND	0.0010	0.00031	mg/l	
74-87-3	Methyl chloride	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0010	mg/l	
78-93-3	Methyl ethyl ketone	ND	0.010	0.0018	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00028	mg/l	
100-42-5	Styrene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00031	mg/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID:	TRIP BLANK-002	Date Sampled:	06/19/12
Lab Sample ID:	TC10984-4	Date Received:	06/20/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC-Metzler/ 3200 Main St. Keokuk, IA		

SW-846 8260B

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0010	0.00038	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00036	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00033	mg/l	
108-88-3	Toluene	ND	0.0010	0.00026	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	0.00036	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00040	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	95%		75-121%
2037-26-5	Toluene-D8	100%		87-119%
460-00-4	4-Bromofluorobenzene	116%		80-133%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

TC10984

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking #
535599232719

Bottle Order Control #

Accutest Order #

Accutest Job #

Client / Reporting Information		Project Information		Requested Analyses												Matrix Codes				
Company Name URS		Project Name: 3200 Main St - UTC																		
Street Address 8300 College Blvd Suite 200		Street 3200 Main St		Billing Information (if different from Report to)																
City Overland Park KS	State KS	City Kokomo IA	State IA	Company Name																
Zip 66210				Project #																
Project Contact David Dods	E-mail 16530531.00201	Street Address																		
Phone # 913-344-1022	Fax #	City C. Arthur		State 816-668-7763		Zip														
Sampler(s) Name(s) C. Arthur		Phone #		Project Manager		Attention:														
Accutest Sample #		Field ID / Point of Collection		Collection				Number of preserved Bottles												LAB USE ONLY
				Date	Time	Sampled By	Matrix	# of bottles	HCl	NH4	Zn/Ni/GH	HNO3	H2SO4	None	D/Water	MECH	TSP	NaSCN4	ENONE	
1	MW-19	6-19	1515	CA	W	12	8	1	7											
1	MW-19 MS	6-19	1515	CA	W	12	8	1	7											
1	MW-19 MSD	6-19	1515	CA	W	12	8	1	3											
2	MW-23A	6-19	1500	TS	W	2	8	1	3											
3	MW-23B	6-19	1635	TS	W	12	8	1	3											
4	Temp Blank -002	6-19			W	2														
	Temp Blank																			
Turnaround Time (Business days)		Data Deliverable Information												Comments / Special Instructions						
<input type="checkbox"/> Standard <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 4 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day EMERGENCY		Approved By (Accutest PM): / Date: _____ _____												<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULT1 (Level 3+4) <input type="checkbox"/> REDT1 (Level 3+4) <input type="checkbox"/> Commercial "C" Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial "C" = Results + QC & Surrogate Summary						
Emergency & Rush T/A data available VIA Lablink																				
Sample Custody must be documented below each time samples change possession, including courier delivery.																07/15/2012				
Relinquished by Sampler: 1 C. Arthur	Date/Time: 6-19-12 18:00	Received By: RJ	Relinquished By: 2	Date/Time: 6-20-12	Received By: Cham															
Relinquished by Sampler: 3	Date/Time:	Received By: 3	Relinquished By: 4	Date/Time:	Received By: 4															
Relinquished by: 5	Date/Time:	Received By: 5	Custody Seal # 002	Intact <input type="checkbox"/> Not Intact <input type="checkbox"/>	Preserved where applicable <input type="checkbox"/>	On Ice <input type="checkbox"/>	Cooler Temp. <input type="checkbox"/>													

TC10984: Chain of Custody

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Accutest Laboratories Sample Receipt Summary

Page 1 of 4

Accutest Job Number: TC10984	Client: URS	Project: 3200 MAIN ST. UTC
Date / Time Received: 6/20/2012	Delivery Method:	Airbill #'s:
No. Coolers: 1	Therm ID: IRGUN5;	Temp Adjustment Factor: -0.4;
Cooler Temps (Initial/Adjusted): #1: (5.9/5.5);		

Cooler Security 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/>	Cooler Temperature 1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/> 2. Cooler temp verification: _____ 3. Cooler media: Ice (Bag)	Quality Control Preservation 1. Trip Blank present / cooler: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2. Trip Blank listed on COC: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/> 4. VOCs headspace free: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Y or N Y or N Y or N Y or N WTB N/A WTB STB
		Sample Integrity - Documentation 1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/> 2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/> 3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/>	
		Sample Integrity - Condition 1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/> 2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/> 3. Condition of sample: Intact	
		Sample Integrity - Instructions 1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/> 2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/> 3. Sufficient volume recvd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/> 4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> 5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	

Comments

Accutest Laboratories
V 713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

TC10984: Chain of Custody
Page 2 of 5

Sample Receipt Log

Page 2 of 4

Job #: TC10984

Date / Time Received: 6/20/2012 9:15:00 AM

Initials: CM

Client: URS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC10984-1	500ml	1	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	500ml	2	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	500ml	3	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	500ml	4	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	500ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	500ml	6	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	250ml	7	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	250ml	8	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	250ml	9	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	250ml	10	1II	ZNAC/NaOH		IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	250ml	11	1III	ZNAC/NaOH		IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	250ml	12	1III	ZNAC/NaOH		IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	13	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	14	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	15	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	16	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	17	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	18	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	19	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	20	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	21	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	22	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	23	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5

TC10984: Chain of Custody
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Sample Receipt Log

Page 3 of 4

Job #: TC10984

Date / Time Received: 6/20/2012 9:15:00 AM

Initials: CM

Client: URS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC10984-1	40ml	24	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	25	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	26	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	27	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	28	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	29	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	30	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	31	I ^{II}	HCL	pH < 2	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	32	I ^{II}	HCL	pH < 2	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	33	I ^{II}	HCL	pH < 2	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	34	I ^{II}	HCL	pH < 2	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	35	I ^{II}	HCL	pH < 2	IRGUNS5	5.9	-0.4	5.5
1	TC10984-1	40ml	36	I ^{II}	HCL	pH < 2	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	500ml	1	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	500ml	2	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	250ml	3	3H	N/P	Note #2 - Preservative check not applicable.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	250ml	4	I ^{II}	ZNAC/NaOH		IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5
1	TC10984-2	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUNS5	5.9	-0.4	5.5

TC10984: Chain of Custody
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Sample Receipt Log

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Job #: TC10984

Date / Time Received: 6/20/2012 9:15:00 AM

Initials: CM

Client: URS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC10984-2	40ml	11	1II	HCL	pH < 2	IRGUN5	5.9	-0.4	5.5
1	TC10984-2	40ml	12	1II	HCL	pH < 2	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	500ml	1	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	500ml	2	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	250ml	3	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	250ml	4	1II	ZNAC/NaOH		IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	11	1II	HCL	pH < 2	IRGUN5	5.9	-0.4	5.5
1	TC10984-3	40ml	12	1II	HCL	pH < 2	IRGUN5	5.9	-0.4	5.5
1	TC10984-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5
1	TC10984-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.9	-0.4	5.5

TC10984: Chain of Custody
Page 5 of 5



GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 2

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK387-MB	K08470.D	1	06/27/12	EM	n/a	n/a	VK387

The QC reported here applies to the following samples:

Method: SW846 8260B

TC10984-1, TC10984-2, TC10984-3, TC10984-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	10	ug/l	
71-43-2	Benzene	ND	1.0	0.25	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.25	ug/l	
75-25-2	Bromoform	ND	1.0	0.35	ug/l	
71-36-3	n-Butyl Alcohol	ND	50	33	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	ND	1.0	0.20	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.36	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.36	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.29	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.40	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.29	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
540-59-0	1,2-Dichloroethene (total)	ND	2.0	0.54	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
110-54-3	Hexane	ND	2.0	0.66	ug/l	
591-78-6	2-Hexanone	ND	10	2.4	ug/l	
78-83-1	Isobutyl alcohol	ND	50	23	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	1.9	ug/l	
74-83-9	Methyl bromide	ND	1.0	0.31	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.28	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.31	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.38	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.36	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	

Method Blank Summary

Page 2 of 2

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK387-MB	K08470.D	1	06/27/12	EM	n/a	n/a	VK387

The QC reported here applies to the following samples:

Method: SW846 8260B

TC10984-1, TC10984-2, TC10984-3, TC10984-4

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.36	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.40	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	101%
17060-07-0	1,2-Dichloroethane-D4	96%
2037-26-5	Toluene-D8	100%
460-00-4	4-Bromofluorobenzene	116%

Blank Spike Summary

Page 1 of 2

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK387-BS	K08468.D	1	06/27/12	EM	n/a	n/a	VK387

The QC reported here applies to the following samples:

Method: SW846 8260B

TC10984-1, TC10984-2, TC10984-3, TC10984-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	106	85	62-124
71-43-2	Benzene	25	22.3	89	76-118
75-27-4	Bromodichloromethane	25	22.8	91	68-107
75-25-2	Bromoform	25	21.2	85	64-103
71-36-3	n-Butyl Alcohol	250	274	110	40-141
108-90-7	Chlorobenzene	25	22.8	91	74-111
75-00-3	Chloroethane	25	26.8	107	75-135
67-66-3	Chloroform	25	23.0	92	75-117
75-15-0	Carbon disulfide	25	24.2	97	57-126
56-23-5	Carbon tetrachloride	25	23.6	94	75-125
75-34-3	1,1-Dichloroethane	25	23.2	93	76-121
75-35-4	1,1-Dichloroethylene	25	24.6	98	71-128
107-06-2	1,2-Dichloroethane	25	22.5	90	70-111
78-87-5	1,2-Dichloropropane	25	22.7	91	71-113
124-48-1	Dibromochloromethane	25	21.9	88	69-104
156-59-2	cis-1,2-Dichloroethylene	25	23.1	92	68-113
10061-01-5	cis-1,3-Dichloropropene	25	23.0	92	71-111
156-60-5	trans-1,2-Dichloroethylene	25	22.5	90	70-125
540-59-0	1,2-Dichloroethene (total)	50	45.5	91	71-117
10061-02-6	trans-1,3-Dichloropropene	25	24.9	100	75-111
100-41-4	Ethylbenzene	25	22.6	90	75-112
110-54-3	Hexane	25	25.3	101	68-130
591-78-6	2-Hexanone	125	98.8	79	60-113
78-83-1	Isobutyl alcohol	250	256	102	70-130
108-10-1	4-Methyl-2-pentanone	125	101	81	63-115
74-83-9	Methyl bromide	25	25.9	104	59-132
74-87-3	Methyl chloride	25	26.3	105	56-150
75-09-2	Methylene chloride	25	22.0	88	70-113
78-93-3	Methyl ethyl ketone	125	105	84	62-117
1634-04-4	Methyl Tert Butyl Ether	25	22.4	90	65-113
100-42-5	Styrene	25	22.7	91	76-110
71-55-6	1,1,1-Trichloroethane	25	24.1	96	76-125
79-34-5	1,1,2,2-Tetrachloroethane	25	21.5	86	67-110
79-00-5	1,1,2-Trichloroethane	25	22.4	90	69-107
127-18-4	Tetrachloroethylene	25	23.6	94	77-120
108-88-3	Toluene	25	22.2	89	77-114

* = Outside of Control Limits.

5.2.1
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Blank Spike Summary

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK387-BS	K08468.D	1	06/27/12	EM	n/a	n/a	VK387

The QC reported here applies to the following samples:

Method: SW846 8260B

TC10984-1, TC10984-2, TC10984-3, TC10984-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
79-01-6	Trichloroethylene	25	23.1	92	74-117
75-01-4	Vinyl chloride	25	23.5	94	64-121
1330-20-7	Xylene (total)	75	67.3	90	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	79-122%
17060-07-0	1,2-Dichloroethane-D4	94%	75-121%
2037-26-5	Toluene-D8	100%	87-119%
460-00-4	4-Bromofluorobenzene	112%	80-133%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC10984-1MS	K08472.D	1	06/27/12	EM	n/a	n/a	VK387
TC10984-1MSD	K08473.D	1	06/27/12	EM	n/a	n/a	VK387
TC10984-1	K08471.D	1	06/27/12	EM	n/a	n/a	VK387

The QC reported here applies to the following samples:

Method: SW846 8260B

TC10984-1, TC10984-2, TC10984-3, TC10984-4

CAS No.	Compound	TC10984-1 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
67-64-1	Acetone	ND	125	105	84	105	84	0	62-124/21	
71-43-2	Benzene	ND	25	23.2	93	22.9	92	1	76-118/16	
75-27-4	Bromodichloromethane	ND	25	23.6	94	23.4	94	1	68-107/12	
75-25-2	Bromoform	ND	25	22.0	88	22.5	90	2	64-103/14	
71-36-3	n-Butyl Alcohol	ND	250	238	95	270	108	13	40-141/19	
108-90-7	Chlorobenzene	ND	25	23.4	94	22.9	92	2	74-111/11	
75-00-3	Chloroethane	ND	25	28.0	112	26.9	108	4	75-135/15	
67-66-3	Chloroform	ND	25	24.0	96	23.5	94	2	75-117/12	
75-15-0	Carbon disulfide	ND	25	24.8	99	24.7	99	0	57-126/13	
56-23-5	Carbon tetrachloride	0.36	J	25	24.9	98	23.4	92	6	75-125/12
75-34-3	1,1-Dichloroethane	ND	25	24.2	97	23.4	94	3	76-121/13	
75-35-4	1,1-Dichloroethylene	ND	25	25.4	102	23.9	96	6	71-128/19	
107-06-2	1,2-Dichloroethane	ND	25	23.5	94	23.5	94	0	70-111/14	
78-87-5	1,2-Dichloropropane	ND	25	23.5	94	23.5	94	0	71-113/12	
124-48-1	Dibromochloromethane	ND	25	23.3	93	23.2	93	0	69-104/12	
156-59-2	cis-1,2-Dichloroethylene	ND	25	24.2	97	23.0	92	5	68-113/13	
10061-01-5	cis-1,3-Dichloropropene	ND	25	23.9	96	23.6	94	1	71-111/12	
156-60-5	trans-1,2-Dichloroethylene	ND	25	23.7	95	22.8	91	4	70-125/14	
540-59-0	1,2-Dichloroethene (total)	ND	50	47.9	96	45.8	92	4	71-117/12	
10061-02-6	trans-1,3-Dichloropropene	ND	25	25.4	102	24.9	100	2	75-111/12	
100-41-4	Ethylbenzene	ND	25	23.4	94	22.6	90	3	75-112/12	
110-54-3	Hexane	ND	25	26.6	106	24.0	96	10	68-130/12	
591-78-6	2-Hexanone	ND	125	105	84	104	83	1	60-113/18	
78-83-1	Isobutyl alcohol	ND	250	236	94	265	106	12	70-130/30	
108-10-1	4-Methyl-2-pentanone	ND	125	108	86	109	87	1	63-115/21	
74-83-9	Methyl bromide	ND	25	27.1	108	26.5	106	2	59-132/15	
74-87-3	Methyl chloride	ND	25	27.2	109	26.0	104	5	56-150/17	
75-09-2	Methylene chloride	ND	25	22.5	90	22.1	88	2	70-113/13	
78-93-3	Methyl ethyl ketone	ND	125	110	88	112	90	2	62-117/21	
1634-04-4	Methyl Tert Butyl Ether	ND	25	23.5	94	23.3	93	1	65-113/13	
100-42-5	Styrene	ND	25	23.3	93	23.1	92	1	76-110/11	
71-55-6	1,1,1-Trichloroethane	ND	25	25.3	101	23.8	95	6	76-125/11	
79-34-5	1,1,2,2-Tetrachloroethane	ND	25	23.4	94	23.0	92	2	67-110/20	
79-00-5	1,1,2-Trichloroethane	ND	25	23.5	94	23.1	92	2	69-107/14	
127-18-4	Tetrachloroethylene	ND	25	24.6	98	23.2	93	6	77-120/13	
108-88-3	Toluene	ND	25	23.1	92	22.4	90	3	77-114/12	

* = Outside of Control Limits.

5.3.1
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Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC10984-1MS	K08472.D	1	06/27/12	EM	n/a	n/a	VK387
TC10984-1MSD	K08473.D	1	06/27/12	EM	n/a	n/a	VK387
TC10984-1	K08471.D	1	06/27/12	EM	n/a	n/a	VK387

The QC reported here applies to the following samples:

Method: SW846 8260B

TC10984-1, TC10984-2, TC10984-3, TC10984-4

CAS No.	Compound	TC10984-1		Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
79-01-6	Trichloroethylene	ND		25	24.8	99	23.9	96	4	74-117/12
75-01-4	Vinyl chloride	ND		25	24.2	97	22.9	92	6	64-121/19
1330-20-7	Xylene (total)	ND		75	69.8	93	68.4	91	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC10984-1	Limits
1868-53-7	Dibromofluoromethane	102%	100%	103%	79-122%
17060-07-0	1,2-Dichloroethane-D4	95%	97%	97%	75-121%
2037-26-5	Toluene-D8	99%	100%	100%	87-119%
460-00-4	4-Bromofluorobenzene	116%	115%	114%	80-133%

* = Outside of Control Limits.



GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Page 1 of 1

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS151-MB	SS003051.D	1	06/22/12	FI	n/a	n/a	GSS151

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

TC10984-1, TC10984-2, TC10984-3

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-85-1	Ethene	ND	1.0	0.50	ug/l	
74-84-0	Ethane	ND	1.0	0.50	ug/l	

Blank Spike Summary

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS151-BS	SS003052.D	1	06/22/12	FI	n/a	n/a	GSS151

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

TC10984-1, TC10984-2, TC10984-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	21.9	102	70-130
74-85-1	Ethene	57.4	65.9	115	70-130
74-84-0	Ethane	43.3	43.9	101	70-130

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC10984-1MS	SS003058.D	1	06/22/12	FI	n/a	n/a	GSS151
TC10984-1	SS003057.D	1	06/22/12	FI	n/a	n/a	GSS151

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

TC10984-1, TC10984-2, TC10984-3

CAS No.	Compound	TC10984-1		Spike	MS	MS	Limits
		ug/l	Q	ug/l	ug/l	%	
74-82-8	Methane	4.78		21.5	26.2	100	60-140
74-85-1	Ethene	ND		57.4	69.0	120	60-140
74-84-0	Ethane	ND		43.3	48.1	111	60-140

* = Outside of Control Limits.

Duplicate Summary

Job Number: TC10984

Account: URSKSOP URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC10973-4DUP	SS003063.D	1	06/22/12	FI	n/a	n/a	GSS151
TC10973-4	SS003062.D	1	06/22/12	FI	n/a	n/a	GSS151

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

TC10984-1, TC10984-2, TC10984-3

CAS No.	Compound	TC10973-4		DUP	Q	RPD	Limits
		ug/l	Q	ug/l			
74-82-8	Methane	191		195	2		30
74-85-1	Ethene	1.0 U		ND	nc		30
74-84-0	Ethane	1.0 U		ND	nc		30

* = Outside of Control Limits.



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC10984
Account: URSKSOP - URS Corporation
Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

QC Batch ID: MP17980
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

06/21/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	12		
Antimony	5.0	1	1		
Arsenic	5.0	1.7	1		
Barium	200	.97	3.4		
Beryllium	4.0	.056	.16		
Boron	100	1.4	7.8		
Cadmium	4.0	.11	.09		
Calcium	5000	7.4	25		
Chromium	10	.23	.27		
Cobalt	50	.15	.22		
Copper	20	1.1	5.9		
Iron	100	1.1	23	6.4	<100
Lead	3.0	1	1.8		
Lithium	300	2	2		
Magnesium	5000	7.7	7.9		
Manganese	15	.054	1.9	1.5	<15
Molybdenum	10	.39	.2		
Nickel	40	.69	1.4		
Potassium	5000	39	45		
Selenium	5.0	1.5	.98		
Silver	10	1.2	.24		
Sodium	5000	9.2	100		
Strontium	10	.061	.4		
Thallium	10	.67	1.2		
Tin	20	.69	2.8		
Titanium	20	.29	.3		
Vanadium	50	.3	.3		
Zinc	20	.51	3.5		

Associated samples MP17980: TC10984-1F, TC10984-2F, TC10984-3F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC10984

Account: URSKSOP - URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

QC Batch ID: MP17980
Matrix Type: AQUEOUSMethods: SW846 6010B
Units: ug/l

Prep Date:

06/21/12

Metal	TC10984-1F Original MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	18.7	47700	50000	95.4 75-125
Lead				
Lithium				
Magnesium				
Manganese	20.5	433	400	103.1 75-125
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP17980: TC10984-1F, TC10984-2F, TC10984-3F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC10984

Account: URSKSOP - URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

QC Batch ID: MP17980
Matrix Type: AQUEOUSMethods: SW846 6010B
Units: ug/l

Prep Date:

06/21/12

Metal	TC10984-1F Original	MSD MPTW4	Spikelot MPTW4	MSD % Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	18.7	47800	50000	95.6	0.2	20
Lead						
Lithium						
Magnesium						
Manganese	20.5	436	400	103.9	0.7	20
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP17980: TC10984-1F, TC10984-2F, TC10984-3F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC10984

Account: URSKSOP - URS Corporation

Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

QC Batch ID: MP17980
Matrix Type: AQUEOUSMethods: SW846 6010B
Units: ug/l

Prep Date:

06/21/12

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	48300	50000	96.6	80-120
Lead				
Lithium				
Magnesium				
Manganese	418	400	104.5	80-120
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP17980: TC10984-1F, TC10984-2F, TC10984-3F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TC10984
 Account: URSKSOP - URS Corporation
 Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

QC Batch ID: MP17980
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date:

06/21/12

Metal	TC10984-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	18.7	35.3	88.7 (a)	0-10
Lead				
Lithium				
Magnesium				
Manganese	20.5	21.4	4.5	0-10
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP17980: TC10984-1F, TC10984-2F, TC10984-3F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).



General Chemistry

QC Data Summaries

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Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC10984
Account: URSKSOP - URS Corporation
Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO ₃	GN43189	5.0	0.0	mg/l	100	93.0	93.0	80-120%
Chloride	GP19744/GN43123	0.50	0.0	mg/l	10	10.6	106.0	90-110%
Nitrogen, Nitrate	GP19676/GN43019	0.50	0.0	mg/l	10	9.99	99.9	90-110%
Nitrogen, Nitrate + Nitrite	GP19758/GN43145	0.10	0.0	mg/l	1	0.978	97.8	90-110%
Nitrogen, Nitrite	GP19676/GN43019	0.50	0.0	mg/l	10	10.2	102.0	90-110%
Sulfate	GP19744/GN43123	0.50	0.0	mg/l	10	10.2	102.0	90-110%
Sulfide	GN43029	0.20	0.0	mg/l	1600	1560	97.5	80-120%
Total Organic Carbon	GP19688/GN43033	1.0	0.0	mg/l	25	24.0	96.0	80-120%

Associated Samples:

Batch GN43029: TC10984-1, TC10984-2, TC10984-3
Batch GN43189: TC10984-1, TC10984-2, TC10984-3
Batch GP19676: TC10984-1, TC10984-2, TC10984-3
Batch GP19688: TC10984-1, TC10984-2, TC10984-3
Batch GP19744: TC10984-1, TC10984-2, TC10984-3
Batch GP19758: TC10984-1, TC10984-2, TC10984-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC10984
Account: URSKSOP - URS Corporation
Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO ₃	GN43189	TC10984-1	mg/l	390	395	1.3	0-10%
Chloride	GP19744/GN43123	TC10984-1	mg/l	278	279	0.4	0-20%
Nitrogen, Nitrate	GP19676/GN43019	TC10984-1	mg/l	0.65	0.67	3.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19758/GN43145	TC10984-1	mg/l	0.43	0.41	4.8	0-20%
Nitrogen, Nitrite	GP19676/GN43019	TC10984-1	mg/l	0.0	0.0	0.0	0-20%
Sulfate	GP19744/GN43123	TC10984-1	mg/l	254	252	0.8	0-20%
Sulfide	GN43029	TC10984-1	mg/l	0.0	0.0	0.0	0-20%
Total Organic Carbon	GP19688/GN43033	TC10984-1	mg/l	1.6	1.4	13.3	0-20%

Associated Samples:

Batch GN43029: TC10984-1, TC10984-2, TC10984-3
 Batch GN43189: TC10984-1, TC10984-2, TC10984-3
 Batch GP19676: TC10984-1, TC10984-2, TC10984-3
 Batch GP19688: TC10984-1, TC10984-2, TC10984-3
 Batch GP19744: TC10984-1, TC10984-2, TC10984-3
 Batch GP19758: TC10984-1, TC10984-2, TC10984-3
 (*) Outside of QC limits

8.2
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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC10984
Account: URSKSOP - URS Corporation
Project: UTC-Metzler/ 3200 Main St. Keokuk, IA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO ₃	GN43189	TC10984-1	mg/l	390	25	410	80.0	79-122%
Chloride	GP19744/GN43123	TC10984-1	mg/l	278	500	791	102.6	80-120%
Nitrogen, Nitrate	GP19676/GN43019	TC10984-1	mg/l	0.65	10	9.5	88.5	80-120%
Nitrogen, Nitrate + Nitrite	GP19758/GN43145	TC10984-1	mg/l	0.43	1	1.4	97.0	90-110%
Nitrogen, Nitrite	GP19676/GN43019	TC10984-1	mg/l	0.0	10	9.3	93.0	80-120%
Sulfate	GP19744/GN43123	TC10984-1	mg/l	254	500	770	103.2	80-120%
Total Organic Carbon	GP19688/GN43033	TC10984-1	mg/l	1.6	25	23.3	86.8	75-125%

Associated Samples:

Batch GN43189: TC10984-1, TC10984-2, TC10984-3
 Batch GP19676: TC10984-1, TC10984-2, TC10984-3
 Batch GP19688: TC10984-1, TC10984-2, TC10984-3
 Batch GP19744: TC10984-1, TC10984-2, TC10984-3
 Batch GP19758: TC10984-1, TC10984-2, TC10984-3
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits

8.3